

1. In an application service provider (ASP) computing environment wherein
2 a client interacts with a remote server over a shared network, a method of increasing
transaction reliability, comprising the steps of:
 - 4 maintaining a list of critical transactions;
locally caching at least certain processing capabilities associated with the
6 application;
monitoring requests from the client to determine if a request relates to one of the
8 critical transactions; and, if so:
processing that transaction locally and returning a response directly to the client.
2. The method of claim 1, further including the step of synchronizing the
2 transaction with the remote server after processing the request.
3. The method of claim 2, wherein the synchronization contains both the
2 request and the locally issued response.
4. The method of claim 1, assuming the request does not relate to a critical
2 transaction, further including the step of transparently routing the transaction to the
remote server if the network is functioning and, if not, returning a failure message to the
4 client if the network is unavailable or if the server is otherwise inaccessible.

5. The method of claim 1, further including the step of monitoring the
2 connectivity of the network in a background mode and, if a problem with connectivity is
detected, taking one or more actions to overcome the problem.

6. The method of claim 5, wherein one of the actions used to overcome a
2 problem associated with network connectivity includes routing traffic to an alternative
network provider.

7. The method of claim 5, wherein one of the actions used to overcome a
2 problem associated with network connectivity includes establishing communication
through a backup link.

8. The method of claim 5, wherein one of the actions used to overcome a
2 problem associated with network connectivity includes the use of an alternative
communications infrastructure to notify network administrators of the problem.

9. The method of claim 1, wherein the application is associated with
2 electronic commerce.

10. The method of claim 9, wherein the client is associated with a store having
2 one or more point-of-sale terminals.

11. The method of claim 10, wherein sales transactions are identified as
2 critical, whereas functionality related to reporting, inventory data, and customer
relationship or management are considered non-critical.

12. The method of claim 9, wherein the network is the internet.

13. In a network computing environment wherein a client interacts with a
2 remote server providing access to an application, an intelligent caching router
comprising:

4 a component containing software, hardware, or both, situated proximate to the
location of the client and functioning as an interface to the network, the component
6 storing a list of critical transactions and at least some of the processing capabilities
associated with the application,

8 the component being operative to perform the following functions:

a) monitor requests from the client to determine if a request relates to one of
10 the critical transactions; and, if so:

b) process that transaction locally and returning a response directly to the
12 client.

14. The intelligent caching router of claim 13, wherein the component is
2 further operative to synchronize the transaction with the remote server after processing
the request.

15. The intelligent caching router of claim 14, wherein the synchronization
2 contains both the request and the locally issued response.

16. The intelligent caching router of claim 13, assuming the request does not
2 relate to a critical transaction, the component being further operative to transparently
route the transaction to the remote server if the network is functioning and, if not, return a
4 failure message to the client if the network is unavailable or if the server is otherwise
inaccessible.

17. The intelligent caching router of claim 13, the component being further
2 operative to monitor the connectivity of the network in a background mode and, if a
problem with connectivity is detected, take one or more actions to overcome the problem.

18. The intelligent caching router of claim 17, wherein one of the actions used
2 to overcome a problem associated with network connectivity includes routing traffic to an
alternative network provider.

19. The intelligent caching router of claim 17, wherein one of the actions used
2 to overcome a problem associated with network connectivity includes establishing
communication through a backup link.

20. The intelligent caching router of claim 17, wherein one of the actions used
2 to overcome a problem associated with network connectivity includes the use of an
alternative communications infrastructure to notify network administrators of the
4 problem.

21. The intelligent caching router of claim 17, wherein the application is
2 associated with electronic commerce.

22. The intelligent caching router of claim 13, wherein the client is associated
2 with a store having one or more point-of-sale terminals.

23. The intelligent caching router of claim 22, wherein sales transactions are
2 identified as critical, whereas functionality related to reporting, inventory data, and
customer relationship or management are considered non-critical.

24. The intelligent caching router of claim 13, wherein the network is the
2 Internet.

25. The intelligent caching router of claim 13, further including routing or
2 firewall functionality associated with the application.

26. The intelligent caching router of claim 13, wherein the component is
2 further operative to perform DNS (domain name system) lookup, DHCP (dynamic host
configuration protocol) service, and any other network services that are essential for the
4 functioning of the local client.

27. In an application service provider (ASP) computing environment wherein
2 a client interacts with a remote server over a shared network, the improvement
comprising:
4 an intelligent caching router (ICR) inserted functionally between the client and
the network, such that when conventional backup routing fails, the ICR begins to act as a
6 surrogate for the unreachable remote server on which the application service depends.